Comment on

European banking, Past, Present, and Future

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Reviewing two decades of data, Dermine by and large paints a picture of increasing banking market integration in Europe. Lower costs of cross-border payments, increased cross-border deposit holdings by non-financial depositors, and higher market shares of foreign banks all points towards the emergence of a full-fledged European banking market. Foreign banks, however, primarily take the form of subsidiaries rather than branches (as measured by assets, see Dermine's Table 9). This is surprising, as one expects branches to be simpler and cheaper to operate than subsidiaries. Banks may all the same prefer subsidiaries, if these produce a relatively low tax and regulatory burden for them. This would again be surprising, as the Second Banking Directive of 1989 grants a branched international bank the deemed benefit of being able to operate throughout the EU under the single home-country regulation and supervision. At any rate, the prominence of international subsidiaries, subject to host country control, suggests that relatively little has changed since the early 1980s when host country control still characterised all cross-border bank regulation and supervision.

In my comments, I first summarise how the assignment of the main banking policy responsibilities to home and host countries differs for branches and subsidiaries. Then I review some of the policy-related reasons why banks may prefer subsidiaries, as mentioned in Dermine's section 2. A potentially important, although difficult to quantify, influence on the overall tax and regulatory burden on banks is the expected value of a public bailout in case of financial distress. Second, I go somewhat beyond the scope of Dermine's paper to examine how the revealed preference for subsidiaries affects tax and regulatory policy interdependence in Europe. The dominance of subsidiaries may at present have a dampening effect on tax and regulatory competition in the EU, even if

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there are signs that such competition is eroding the overall tax and regulatory burden on EU banks. Policy proposals, such as Dermine' call for involving EU-level institutions in international financial crisis management, should be evaluated as to whether they help to bring about the 'right' overall tax and regulatory burden in the EU.

The assignment of banking policy responsibilities in the EU

Subject to EU directives, countries independently set key aspects of bank regulation, such as the precise nature of their deposit insurance systems and their corporate tax and VAT policies. Policy- making responsibilities are divided differently between home and host countries for international branches and subsidiaries (see also Mayes and Vesala (2001)).

As seen in Table 1, branches are subject to home country control for the main bank regulation and supervision categories of capital adequacy, other prudential regulation (such as large exposure rules), and deposit insurance. The provision of liquidity assistance is a main exception, as it is the primary responsibility of the national or host country central bank. In case of financial distress, the supervisor who exercises consolidated control, i.e. the home country supervisor, will be the co-ordinating supervisor, and the home country treasury presumably is first in line to contribute risk capital and other types of support to a distressed international bank with branches. In practice, the co-ordinating supervisor is likely to call upon the host country treasury to contribute to a bailout, if a substantial share of a bank's business is conducted through branches in the host country. The bailout of an international bank with branches thus may turn out to be a mixed responsibility.

Responsibilities are also mixed in the area of corporate income taxation. The host country has a first right to tax the income of any branches operating within its territory, but the home country generally also subjects any foreign-source income generated by its international branches to taxation. To mitigate the double taxation of cross-border bank income, the home country may provide the parent bank with foreign tax credits or deductions from taxable income for host-country taxes. The VAT is mostly a responsibility of the host country. Specifically, financial services undergo the VAT of the 'production' country. The host country in fact does not charge VAT on financial-sector output, but instead requires banks within its territory to produce financial services with intermediate and capital inputs that are VAT-paid in the host country (this is the essence of the current VAT-exemption of financial services in the EU).

For subsidiaries, the picture is entirely different as seen in Table 1. In fact, a subsidiary is subject primarily to the regulatory and supervisory regime of the host country. In case of financial distress, the host country supervisor is the co-ordinating supervisor and the host country treasury is first in line to provide public financial support. Responsibilities in the case of corporate income taxation and VAT are largely the same as before, even if there may be differences in their implementation that may affect the choice between branches and subsidiaries.

Should an international bank opt for a branch and a subsidiary ?

In choosing between a branch and a subsidiary, a bank presumably aims for the highest profit to be achieved by the lowest total tax and regulatory burden. In doing so, banks will realise the quasi-fiscal nature of a large part of bank regulation and supervision. Deposit insurance is a rather direct quasi-fiscal measure, for instance, as it combines a tax-like insurance premium with a (public) deposit guarantee. Bank regulation and supervision that affect bank stability also have fiscal implications, as they affect the chance of gaining access to deposit-insurance funds or even to tax payers' money in case of a public bail-out. Public bailouts, when they occur, are fiscal transfers to the banking system that reduce the overall tax and regulatory burden on banking. Hence, banks need to determine which legal structure implies the lowest combined tax and regulatory burden on their international activities.

Dermine mentions the different corporate tax treatments of branches and subsidiaries as determinants of the legal-structure choice. Specifically, international banks are more likely to receive cross-border loss-compensation for foreign branches than for subsidiaries in calculating the parent company's tax liability. This is true, as member states generally provide immediate loss-compensation in the case of branches, while only two member states (Denmark and France) do so for subsidiaries (see European Commission (2001a)). This asymmetric tax treatment of branches and subsidiaries, however, tends to favour branches, and hence cannot explain the preference for subsidiaries. All the same, the limited loss-compensation of foreign subsidiaries is a serious barrier to cross-border investments. As part of its strategy in the area of company taxation, the European Commission (2001b) has announced its intention to table legislative measures to improve loss-compensation availability for cross-border activities by the end of 2003. The best solution to this problem would be the introduction of a common tax base for internationally active companies and groups of companies. Such a common tax base for company taxation in Europe is a long-term goal of the European Commission (2001b).

Dermine also mentions that the tax system may discourage the creation of an international network of branches through mergers and acquisitions, if such corporate restructurings trigger the imposition of capital gains taxes (on the assets of the acquired firm). The Merger Directive of 1990, however, has been created to preclude the imposition of capital gains taxes precisely in these circumstances. Thus, the prospect of additional capital gains taxes should not categorically deter the creation of internationally branched banks. In specific circumstances, the Merger Directive, as it stands, may not be able to prevent the imposition of capital gains taxes as it, for instance, precisely delineates the legal forms of companies to which it applies. This means that companies under a legal form that did not exist in 1990 cannot benefit. Short-comings of this nature should be eliminated, and the European Commission (2001b) intends to propose amendments to extend the Merger Directive in 2003.

Corporate income taxation, in summary, my affect legal structure in specific cases, but it is unclear that it can explain a general tendency for international banks to prefer subsidiaries. The VAT equally cannot explain a general tendency to prefer either branches or subsidiaries.

How do bank regulation and supervision affect the legal structure of international banking operations? These areas of banking policy are potentially important, as the distinction between branches and subsidiaries in this respect appears to be most pronounced: branches, roughly, are the joint responsibility of home and host country supervisors, while subsidiaries are mainly the responsibility of host country supervisors. As a result, branches may well end up with a relatively high net tax and regulatory burden, in parallel to the ‘problem of the commons’. This would explain why banks choose to establish subsidiaries.

Does bank regulation and supervision really put higher burdens on branches than on subsidiaries? Dermine mentions that the cost of deposit insurance can affect the legal structure choice, as branches (subsidiaries) contract deposit insurance in the home (host) country. Deposit insurance premiums are not regulated by the EU Deposit Insurance Directive of 1994, and in practice differ widely in Europe (see Table 2). Deposit insurance thus is likely to be a key factor in any legal structure choice, even if these premium differences cannot explain the observed general preference for subsidiaries.

Finally, we should consider how the prospective behaviour of banking authorities during crisis management may affect the choice between branches and subsidiaries. Banking crises tend to be very costly to national governments. The potential costs of a major bank failure in Europe are confirmed by Dermine's calculations of the size of the capital of large banks relative to GDP in his Table 16. History also shows that the public cost of resolving a banking crisis can be substantial. In the last three decades alone, Finland, Spain and Sweden have all seen systemic banking crises, each with a cost of between 5 and 8 percent of GDP (see Table 3). The large public outlays at times of financial crisis imply that financial crisis resolution is a major factor in determining the overall tax and regulatory burden on the banking system.

The Directive on the Winding-Up of Credit Institutions of 2001 states that the bankruptcy laws of the home country apply in case of a bankruptcy of a bank with international branches and, more importantly, that all the bank's creditors have to be treated equally. A bank with an international branch network tends to have international creditors, which makes paying off these creditors an international public good. Decentralised crisis management concerning an international bank with branches would naturally lead to an underprovision of this public good, and hence a lower chance of a generous bailout following distress.

European policy makers are only recently focusing their full attention on the potential problems of international financial crisis management in Europe. Economic and Financial Committee (2001), specifically, lays out the responsibilities and duties of the international authorities concerned (supervisors, central banks, and national treasuries). The home country supervisor is the co-ordinator policy-maker for a distressed international bank with branches, while the host country supervisor co-ordinates policy towards a subsidiary in crisis. An adequate flow of information among public institutions is crucial, especially in the case of a branched firm. Currently, the bilateral exchange of supervisory information is usually arranged in Memoranda of Understanding, but these MoU's generally do not cover the special information needs in case of a financial crisis. Enria and Vesala (forthcoming) discuss the standardisation of MoU's in the EU and binding commitments to exchange information as avenues to improve the flow of information among national authorities. Efforts along these lines, however, face the difficulty that the information required to resolve the next financial crisis may be difficult to define in advance and that international agreements to exchange supervisory information are difficult to enforce.

In practice, national authorities, therefore, are likely to retain some discretion in each financial crisis regarding the information to be shared. Presumably, national authorities will use this discretion to affect the outcome of the crisis management in their favour. Thus there is a tension between a co-operative supervisory model with unhampered information exchange in the EU and national incentives to keep their domestic public outlays at a minimum.

The asymmetric information and divergent interests that characterise international financial crisis management suggest that the tools of game theory could be useful to help predict crisis management outcomes. Ideally, we wish to know how international crisis management would differ from purely domestic crisis management in whether a bank is allowed to fail and, if not, what would be the timing, the amount, and the sharing of the public money provided.

In this vein, Holthausen and Rønde (2001) consider bank closure decisions in a two-country model where the home and host country authorities have different incentives to rescue an international bank, as the home-country deposit insurance agency also covers deposits in the host country. Bank supervisors in the two countries receive independent 'signals' about the quality of the bank's assets. The host country has to decide whether to reveal its information to the home country cognisant of how information exchange may affect the home country's closure decision. Holthausen and Rønde (2001) conclude that the home country supervisor may err on the side of closing down a bank either too early or too late.

Erroneous closure timing decisions are likely to imply inappropriate amounts of money spent to resolve a financial crisis. Holthausen and Rønde (2001) do not explicitly address the cost aspect of crisis resolution, but the presumption is that decentralised financial crisis management leads to too little money spent on average to resolve a crisis. The main reason, as indicated, is that the Directive on the Winding-Up of Credit Institutions does not allow national authorities to discriminate against foreign creditors in a publicly financed bank bailout. Any moneys spent in crisis resolution by a national treasury thus have to benefit the bank's national and foreign creditors equally.

The expectation that decentralised crisis management leads to an underprovision of funds is strengthened, if we note that international financial crisis management is a rare event that finds changing sets of countries at the negotiating table. Hence, there is unlikely to be the kind of repeated interaction that would allow countries to build a reputation for being a good partner in financial crisis containment by contributing generously to financial crisis resolution.

The balance sheets of subsidiaries, unlike those of international banks with branches, primarily reflect local deposits and perhaps borrowing in the local capital market. This type of geographical concentration of the bank's creditors and presumably also of its loan customers provides the host country authorities with relatively strong incentives to bail out the subsidiaries of international banks. In summary, the presumption that subsidiaries are treated relatively favourably in an international financial crisis may be a factor leading banks to prefer subsidiaries to branches.

How does a preference for subsidiaries affect policy interdependence ?

The degree of banking policy interdependence regarding cross-border banking is affected, first, by the international assignment of policy responsibilities (i.e., the issue of home country control vs. host country control) and, second, by the strength of international linkages regarding trade in financial services and international credit exposures. This is represented schematically in Table 4. This table distinguishes between the cases where (i) (all) international bank operations are organised as branches (and hence are subject to home country control) and (ii) as subsidiaries (and hence are subject to host country control). Also, a distinction is made between (i) the presence of substantial trade and financial linkages internationally and (ii) no such linkages. From the table, it is apparent that there is no banking policy interdependence if there is host country control and there exist no international linkages. In every other case, there is some kind of policy interdependence. Two types of policy interdependence can now be distinguished:

> policy interdependence stemming from the interaction of foreign branches (subject to home country control) and domestic firms (subject to their home country control) in the host market,

and

> policy interdependence stemming from the interaction of national banking systems (subject to their home country control) in the international market place.

The prominence of subsidiaries tends to weaken policy interdependence of the first kind. Policy interaction regarding banks operating in the same banking market or in the international banking market differs, and hence it is useful to sketch the two types of policy interdependence separately as done below.

Policy interdependence within a single banking market

As already mentioned, policy makers need to co-ordinate their actions to resolve a financial crises involving the foreign branches of an international bank. A second aspect of banking policy affected by the presence of foreign branches is deposit insurance. Foreign branches are subject to the deposit insurance scheme of their home country and hence pay the deposit insurance premium charged by the home country deposit insurance scheme. This implies that a low deposit insurance premium can be an effective tool to aid the foreign branches of domestic parent banks in their competition with banks in the host country. Banks subject to a low deposit insurance premium will be able to pass on this advantage to their deposits in the form of higher deposit interest rates, which should allow them to capture market share.

Huizinga and Nicodème (2002) report regression results indicating that the deposit insurance premium and other deposit insurance system features affect the location of bank deposits internationally. This suggests that deposit insurance can be an effective instrument of banking system competition for at least international customers. Regulatory competition in the area of deposit insurance could be considered undesirable if it leads to deposit insurance premiums that are too low given the expected liabilities of the deposit insurance scheme. To check this, Laeven (2002) calculates 'fair' deposit insurance premiums for a large set of countries using several methods and compares these with actual premiums. Deposit insurance premiums in Germany – both public and private – appear to be less than what would be fair. In Austria, Italy, Luxembourg and the Netherlands, however, the deposit insurance assessment is contingent on losses occurring in the system, which complicates Laeven's analysis. Ex post assessment would generally occur at times when the banking system is under severe stress, and hence may turn out to be impracticable. This suggests that countries with ex post assessment may subsidise their banks through cheap deposit insurance.

Tax policies, and in particular corporate income taxes and the VAT, appear to be ill-suited as instruments to affect the competition between foreign branches and domestic banks in the same banking market. These instruments tend to be too blunt to distinguish between domestic and foreign banks.

All the same, foreign banks may in practice face lower corporate income, and perhaps VAT burdens, if they have relatively ample opportunity to reduce host-country taxes through the manipulation of international transfer prices. There is some evidence that foreign banks in the EU indeed face lower taxes than domestic banks. Specifically, Demirgüç-Kunt and Huizinga find that foreign banks in 5 EU member states (Austria, Belgium, Italy, Spain and the United Kingdom) pay significantly lower taxes than domestic institutions using bank-level data for the 1988-1995 period (these results are reproduced in Table 5). This finding may be due to the ample profit shifting opportunities available to foreign banks or it may reflect that foreign banking operations are relatively unprofitable – perhaps due to insufficient information about foreign market conditions.

Policy interdependence in the international banking market

Banking systems have to compete in the international banking market, if bank customers are willing to turn to banks located abroad for their banking services. Similarly, banking policies will have international repercussions, if banks are linked internationally by way of significant credit exposures or cross-holdings of shares. Hence, a recurring question regarding international banking policies is whether and to what extent the European banking market is already integrated. This was a main question in the report by the Economic and Financial Committee (2000) on financial stability, and it is a pervasive theme of the Dermine paper.

The Economic and Financial Committee (2000) reports that large European banks obtain 38 of their income from foreign sources (with equal shares from Europe/EU and non-Europe/EU). As further evidence of bank market integration, Galati and Tsatsaronis (2001) report that international bank claims inside the euro area rose from a plateau of around $ 650 billion in the 1995-97 period to more than $ 900 billion after 1999. Consistent with this, Dermine reports that the costs of cross-border payments have come down on average between 1993 and 2000, although they remain high in some instances (Dermine's Table 6). The recent work by Berger et al (2002) showing that the foreign affiliates of multinational firms tend to prefer local banks to do their cash management, however, suggests bank market integration is still far from complete. Evidence like this can be used to conclude that banking market integration is already substantial in Europe, or conversely that banking market integration is not yet on a scale as perhaps anticipated before. Regardless, bank market integration in Europe is almost certain to increase substantially in the decades to come. Hence, it makes sense to anticipate the days when bank market integration will be much advanced.

Are there signs that national authorities adjust their policies towards banking to attract the foot-loose international banking customers? One area where international bank competition may already have affected policy is the VAT. To see how countries could compete in this area, it is necessary to briefly review the VAT treatment of financial services in the EU. According to the Sixth VAT Directive of 1977, most financial services – such as depositing and lending - are exempt from normal VAT, which is to say that no VAT is assessed on the value of these services. To compensate for the absence of a VAT on bank output, banks cannot claim VAT input credits for the VAT embodied in the prices of their purchased intermediate and (physical) capital inputs either. Thus, the VAT-exemption of most financial services in the EU effectively replaces a VAT on bank-level output with a VAT on some bank-level inputs (intermediate inputs and physical capital inputs).

Some financial services, such as safe keeping and advisory services, remain subject to normal VAT on the output, while VAT-inputs are granted for the inputs used. Most banks produce a combination of exempt financial services and normally taxed financial services. As VAT input credits in principle are only available for inputs used to produce normally taxed financial services, banks in practice have to determine which share of a bank's inputs is used to produce exempt financial services and which share is used to produce taxable financial services. Guidelines on how to do this are difficult to comply with, and even more difficult to enforce for VAT administrations.

The inherent ambiguities in current VAT administration provide the tax authorities with some discretion to determine the effective level of VAT on their banking systems – independently of the statutory VAT rate relevant for the overall economy. They seem to use this discretion to impose rather low effective VAT on their banking systems (see Huizinga (2002)). In particular, the VAT input credits granted to banks in Europe in practice appear to be much higher than expected on the basis of actual input use (see Table 6).

This finding may to some extent result from effective political pressure by banks, but the most logical explanation is that tax administrators choose low effective VAT on their banking systems to give domestic banks a competitive advantage in their competition with banks located abroad. The VAT may be a better instrument to achieve this goal than the corporate income tax, as it is difficult to use the corporate income tax to affect the effective level of taxation of the banking sector or any other particular sector for that matter.

The tax and regulatory burden on EU banking: past, present and future.

Taking a similarly long view as Dermine, what can we say about the development of the tax and regulatory burden on banking in the EU?

Starting with the early 1980s, many European countries still made use of very restrictive financial regulation in the form of controls of interest rates, capital controls and mandatory investment restrictions (see Dermine's Table 1). Such measures have the effect of forcing domestic savers to accept below-market interest rates offered by domestically located financial institutions, which in turn are left to invest in domestic securities and, in particular, in domestic government debt. Financial repression of this kind thus allows governments to finance their debts relatively cheaply, implying a relatively high implicit taxation of savings and of the financial system. Hence, Europe's banking system entered the 1980s in a state of overtaxation and overregulation.

Due to financial liberalisation and banking market integration, the picture may well be exactly opposite in the future. Low deposit insurance premiums and a low VAT on banking already contribute to a relatively low tax and regulatory burden on banking in the EU at present. Banks' preferences for subsidiaries currently may serve to dampen banking system competition somewhat, enabling policy makers to sustain somewhat higher tax and regulatory burdens than would otherwise be possible. The trend towards globalisation, however, is likely to continue and hence the competition-dampening influence of subsidiaries may turn out to be temporary. Of course, regarding the future there are several important unknowns.

One uncertainty concerns the future course of EU banking policies. Will EU policy makers be able to find a middle ground between over- and undertaxation and regulation? Some level of systems competition, subject to appropriate EU-wide common tax and regulatory standards, should be able to produce the desired outcome (analogous to the analysis of Edwards and Keen (1996) who show that some limited tax competition may produce appropriate levels of taxation).

In the future, there may be a greater danger of erring on the side of too little taxation and regulation than too much. Hence, it is desirable to critically review those areas where at present EU banking directives leave countries with some discretion to see whether this discretion is used to lower regulatory burdens too much. Perhaps a useful role in this review can be played by any newly created EU-wide committees dealing with EU banking regulations that are currently under discussion in the ECOFIN (see the press release of Economic and Financial Council (2002)). Such committees would be along the lines of the two committees presently dealing with securities markets regulation – the European Securities Committee and the Committee of European Securities Regulators – created in 2001 following the recommendations of the Committee of Wise Men under the chairmanship of Lamfalussy (see European Commission (2001c)).

An example of a policy to be reviewed by committees along these lines would be the assessment of deposit insurance premiums in the EU. Such a review could lead to the recommendation of a minimum deposit insurance premium. Any increases in quasi-fiscal revenues gained in this way could in part be used to build or strengthen a deposit insurance fund and, beyond a certain level, be turned over to national treasuries. Another area to consider for the EU is reform of the current VAT treatment of financial services.

Reform could make the operation of the banking system more efficient and, in addition, it would yield positive VAT revenue in the EU of around € 15 billion annually, if it leads to the application of standard-level VAT on the banking sector (see Huizinga (2002)).

An important final issue, also considered by Dermine, is how to assign policy-making responsibility in the case of an international banking crisis. Dermine favours decision-making at the European level; specifically, he suggests that the appropriate forum would be a joint meeting of the ECOFIN and the ECB. Such a European approach to financial crisis management has the benefit that the EU-wide repercussions of any crisis resolution are likely to be taken into account, and that decision-making is more likely to be based on a broad set of relevant information.

The internalisation of international externalities in the EU by itself is likely to lead to a more generous provision of public funds in times of financial crisis. Conversely, the transfer of crisis management responsibilities to an EU forum can help control the cost of crisis management, if EU-level decision makers are less responsive to national banking interests. Also, EU-wide financial crisis managers may in practice encounter financial crisis more often than their national counterparts at present. Hence, EU-level financial crisis authorities may be better able to build a reputation for being tough on distressed banks. Toughness of this kind is desirable as it provides bank managers with appropriate incentives to keep bank-level risk in check. On net, an EU body thus may do a better or a worse job of keeping the expectations of bailout support low in the minds of bank managers.

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Table 1. Assignment of banking policy responsibilities for international banking

	Host country control	Home country control		Mix
A. Branches				
Capital adequacy		X		
Other prudential regulation		X		
Deposit insurance		X		
Liquidity assistance	X			
Treasury support in case of distress		X	or	X
Corporate income tax				X
VAT	X			
B. Subsidiaries				
Capital adequacy	X			
Other prudential regulation	X			
Deposit insurance	X			
Liquidity assistance	X			
Treasury support in case of distress	X			
Corporate income tax				X
VAT	X			

Table 2. Deposit insurance premium assessment

Country	Assessment Base	Annual premium in percent
Austria	Insured deposits	Pro rata, ex post
Belgium	Insured deposits	0.02 plus 0.04 if necessary
Denmark	Insured deposits	0.2 (maximum)
Finland	Insured deposits	0.05 to 0.3
France	Deposits plus 1/3 Loans	Risk-adjusted
Germany	Insured deposits	0.008 (statutory scheme); 0-0.1 (private sector)
Greece	Deposits	Decreasing by size: 0.0025 to 0.125
Ireland	Insured deposits	0.2
Italy	Insured deposits	Ex post, adjusted for size and risk
Luxembourg	Insured deposits	Ex post to a maximum of 5% of capital
Netherlands	Insured deposits	Ex post to a maximum of 10 % of capital
Portugal	Insured deposits	0.08 to 0.12
Spain	Insured deposits	0.1 (maximum of 0.2)
Sweden	Insured deposits	0.5 (maximum)
United Kingdom	Insured deposits	On demand, not to exceed 0.3

Source : Laeven (2002, Annex)

Table 3. Episodes of systemic banking crisis

Country	Period	Cost of recapitalisation (percent of GDP)
Finland	1991 - 93	8
Spain	1977 – 85	5.6
Sweden	1991	6.4

Source : Caprio and Klingebiel (1996)

Table 4. Is there banking policy interdependence ?

	Host country control	Home country control
International trade and financial linkages	Yes	Yes
No linkages	No	Yes

Table 5. Impact of foreign ownership on taxes

The dependent variable is taxes paid as a percentage of assets. Regressions also includes equity, loans, fixed assets, customer and short term funding and other interest-bearing funding (all divided by assets) and time dummies all of which are not reported. The foreign dummy denotes foreign ownership share of at least 50 percent.

Country	Foreign Dummy	Adj. R2	N
Austria	- .087** (.037)	. 39	58
Belgium	-. 078** (. 033)	. 12	178
Denmark	. 215 (. 193)	. 37	176
France	-. 039 (. 031)	. 10	391
Germany	-. 046 (. 055)	. 35	140
Greece	. 152 (.095)	.24	70
Ireland	-.092 (. 116)	. 90	9
Italy	-. 238 *** (. 077)	.30	219
Luxembourg	. 027 (. 024)	. 08	266
Netherlands	- .053* (.030)	. 26	153
Portugal	. 103 (. 107)	. 65	99
Spain	-. 311*** (. 036)	. 50	257
Sweden	-. 236 (. 192)	. 21	86
United Kingdom	-.101** (. 048)	. 14	300

*, **,*** indicate significance levels of 10,5 and 1 percent, respectively

Source : Demirgüç-Kunt and Huizinga (2001), Table 5

Table 6. Estimates of inputs into the banking system subject to VAT (with no input credits available) as a share of VAT-exempt output

Method	Share in percent
Sectoral national accounts data for the banking sector are used to identify the purchases of intermediate inputs and physical capital by the entire banking sector. These bank inputs are divided by total bank output (of exempt and normally taxed financial services) to get an estimate of the inputs into bank production - as a share of bank output - for which no VAT input credits are avaialble. Data are for 1998.	41.7
In-depth study of 9 financial institutions carried out for the European Commission during the 1996-1998 period. This study uses bank-level data to directly identify the share of inputs going into the production of exempt financial services for which no VAT credits are available (even though the producers of these inputs were subject to VAT)	16.5

Source : Huizinga (2002)